System 170 High Performance Compact Home Theater Loudspeaker System

Covers Models 171 LR, 173 C, and 174 SR

Instruction Manual

Atlantic Technology®

INNOVATIVE HOME THEATER

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System 170

High Performance Compact Home Theater Loudspeaker System

Thank you for choosing Atlantic Technology home theater products. Your new speaker system is precision crafted to give you years of enjoyable, trouble free service. This manual covers the Atlantic Technology System 170 series of speakers for home theater. It will show you how to incorporate System 170 components into your present setup, as well as how to assemble a complete system. The Model 172 PBM Subwoofer is covered in detail in a separate manual. System 170 has been optimized for use with any surround sound format including Dolby Surround®, Dolby Pro-Logic®, Dolby Digital 5.1® and DTS® digital surround formats.

Model 171 LR Front Channel Speaker

The **Model 171 LR Front Channel Speakers** are two-way systems **intended for use only with a quality subwoofer**, such as the Atlantic Technology Model 172 PBM. Each speaker contains two 4" CCMG (coated composite molded graphite) woofers, and a 1" Ferrofluid® cooled silk dome tweeter using a powerful neodymium magnet, in an acoustically inert MDF cabinet. The 171 LR speakers are magnetically shielded so they may be placed right next to a TV set without concern.

Model 173 C Center Channel Speaker

It is vital to the accurate reproduction of a multi-channel soundtrack that the three front speakers have the same sonic signature. Therefore, the **Model 173 C Center Channel Speaker** contains the same two 4" CCMG woofers and 1" Ferrofluid® cooled silk dome tweeter as the 171 LR speakers. The 173 C is designed for use in multi-channel home theater systems **only as a dedicated center channel speaker**. It includes a high frequency level control that allows it to be placed directly above or below the TV screen (which changes the sound) and still provide accurate reproduction. Since up to 85% of dialogue and 65% of special effects are reproduced through the center channel speaker, it's important that its sound be accurate and timbre-matched to the other speakers in the system. The rear-mounted High Freq control incorporated into the 173 C allows for this matching.

The 173 C center speaker is intended to be placed in a horizontal position, as opposed to the vertical positioning intended for the 171 LR. It too is magnetically shielded so it may be placed directly adjacent to your TV set with no adverse effects.

Model 174 SR Surround Speaker

The **Model 174 SR Dipole Surround Speaker** is intended for use in multi-channel audio/video sound systems **only as a dedicated surround channel speaker**. Each speaker has two of the same 4" CCMG woofers as the front speakers and two broad dispersion 3/4" Modified Dome tweeters. The drivers are angled and electronically phased to produce ambience without localization. The 174 SR's wide bandwidth and unique construction makes it especially suitable for advanced Dolby Digital and DTS applications.

Important Note: *There is a dedicated LEFT and RIGHT model 174 SR. This is clearly marked on the back of each speaker. Should you hang them on the wall using the supplied keyhole adapters, you must turn the speakers over (hanging them "upside down") and swap them side to side for proper operation.*

The vast majority of the time, surround speakers are called upon to reproduce "environmental" sounds that are used as cues to tell you "where you are." Dipoles are undoubtedly the best and most practical way to create such an involving and believable soundfield at home.

Note: *Although the speakers in the Atlantic Technology System 170 are acoustically and cosmetically matched to each other for best results, they may also be used with other Atlantic Technology components and a wide variety of speakers from other manufacturers with satisfying results.*

Connecting Your System

We recommend that you connect your System 170 with high quality dual conductor stranded wire of 18 gauge or larger, for lengths up to 15 feet. (Remember, the lower the gauge number, the larger the wire). Use 16 gauge dual conductor or larger for longer runs of wire. Contact your audio/video dealer for specific cable recommendations and further information for special circumstances.

Warning: *To prevent risk of electrical shock or damage to your equipment, always switch off the amplifier or receiver when making connections to the speaker.*

You can connect your System 170 speakers by using a variety of audio connectors such as banana plugs (single or double—North America only), pin connectors, spade lugs, etc., or you can:

1. Remove 1/2" of insulation from each wire end.
2. Twist the stranded wire together, keeping the two ends separate.
3. Place the appropriate wire through the appropriate postholes in the connectors. These holes are revealed when you loosen the connector capscrew.
4. Screw down the capscrew tightly, but be careful not to overtighten.
5. Check the tightness of the capscrews 24 hours after hookup and occasionally after that, as they can loosen over time.

We recommend that you check your local electrical codes to make sure that you are not using an improper connector.

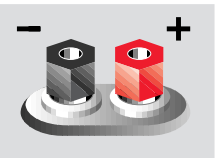


Figure 1: *Gold plated 5-way binding posts. Accepts up to 10 gauge bare wire*

It's important to observe polarity while making speaker connections: red (+) terminals on the amplifier to red (+) on the speaker, black (-) on the amplifier to black (-) on the speaker. Look carefully at the wires you are using and note that one of conductors of each pair will be identified by color, printing on the outer jacket, ridges on the outer jacket, or a thread intertwined with the wire strands. By convention, the marked wire is connected to the red (+) terminal.

Whether your are connecting a complete System 170, or adding a single speaker component to your present system, the wiring should look like the diagram in Figure 2.

Warning: *Before turning on the amplifier, be certain that no stray wire strands are touching across any terminals as this might damage your amplifier.*

Finally, check the polarity of your front speakers by listening to some music. If the sound seems hollow, unusually spread out, or has weak bass, recheck your connections for proper polarity and reverse any out of phase connections, if necessary. Usually one speaker wired out of phase is the culprit.

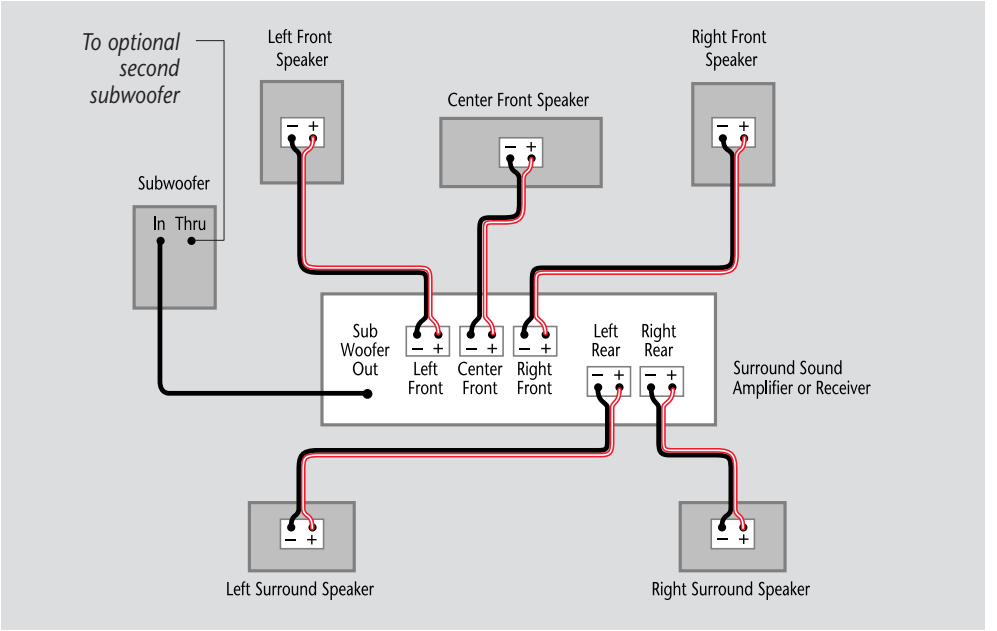


Figure 2: *Typical wiring diagram for speakers in a home theater.*

Placement and Operation

Speaker/room interactions have a huge impact on the sound of the system. Moving the speakers just a little bit can make a dramatic difference in what you hear. The compact design of System 170 provides you with maximum placement flexibility while creating a large, seamless, acoustically accurate soundfield for your home theater or music system. The best placement of the speakers will vary from room to room. Use the following placement guidelines and Figure 3 as a starting point. But also feel free to experiment. In fact, it may be beneficial to hook up the speakers with some extra wire and to simply drape the wire across the floor before installing the speakers permanently. This will allow you the opportunity to move the speakers around easily so you can find the best sonic and visual locations.

Home Theater

Remember that the primary goal of a good home theater is not to make you believe that you are in a movie theater. It's to make you believe you are in the scene taking place on the screen. For a home theater system, place your Model 171 LR speakers on either side of the television. The three front channel speakers (171 LRs and 173 C) are magnetically shielded so they will not interfere with your television picture. The left and right front speakers should be far enough apart that you get a good stereo image, but not so far apart that the sound seems to come directly from the speakers, distracting you from the picture. If you are using a center channel speaker, a wider separation of the left and right front speakers is usually possible. You may choose to "toe" the LR speakers in, aiming them at the prime listening position. This can be particularly useful if the front LR speakers are fairly far apart.

The Model 173 C should be directly above or below your television. It's important the speaker is centered on the screen, not off to the side. The foot cutouts on the speaker base should be facing forward. Pivot the speaker up or down on its base so that it points directly at the listening position.

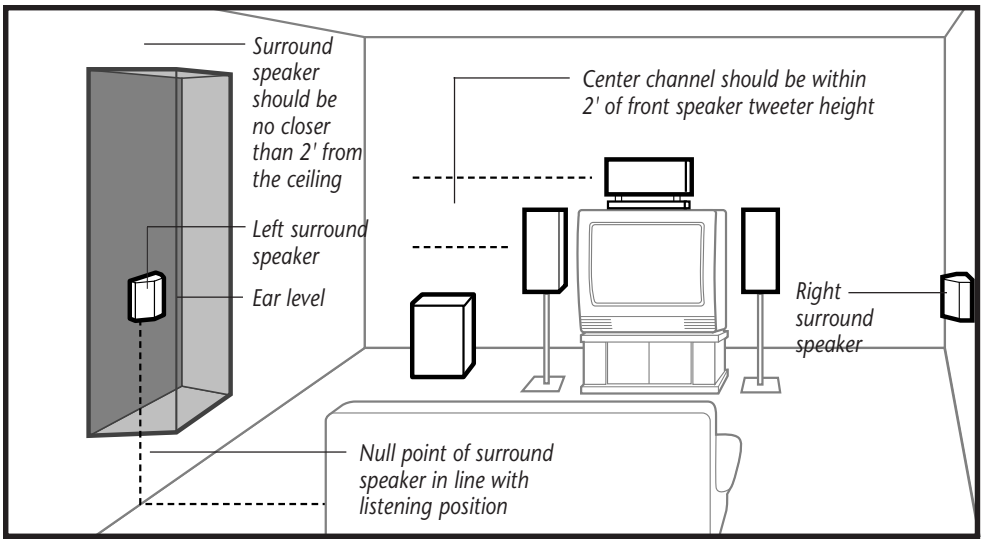


Figure 3: *Typical arrangement for speakers in a home theater. For best results, place the surround speakers within the shaded area. Note that the surround speakers are marked* **Left** *and* **Right**. *It is important that the speakers be placed correctly for proper imaging.*

Operation of the HI FREQ LEVEL Control

The HI FREQ LEVEL control works like a treble tone control, giving you more or less high frequency output from the speaker. You can compensate for overly bright soundtracks or "punch up" a dull soundtrack. Turning this control clockwise increases the high frequency level; turning it counterclockwise reduces it. The HI FREQ LEVEL control also allows you to adjust the overall sonic balance of the 173 C to more closely match the LR speakers even though the 173 C is placed directly above or below the TV screen. It may be best to use the test tone built into your receiver to adjust the overall sound of the 173 C to match the LRs once the speakers are placed in their proper locations.

Figure 4: *Hi-Freq Level Control on rear panel of the Model 173 C.*

Note: *Some surround sound decoders and receivers offer a choice of "Normal" or "Wide-band" modes for the center channel. The Model 173 C was designed to be used in the Normal mode. Additionally, some discrete digital home theater systems allow Bass Management, letting you select between "Small" and "Large" speakers system-wide. Since System170 is designed to work with a subwoofer, please set all the speaker positions to Small.*

Surround Effects

The 174 SR's size and shape allows greater flexibility in placement than most conventional surround loudspeakers. Due to their dipole design's spatial characteristics, it is possible to place the speakers almost anywhere within the rear third of the room, but usually the best location is straight out to the sides of, or slightly behind the primary listening area, approximately 1-2 feet above ear level.

Note: *Surround speakers are intended to re-create the ambient sounds in a movie scene. Throughout most of a movie or TV program you may not be directly aware of the surround speakers presence. So it's OK if you aren't aware of hearing the surround speakers directly. Turning the surrounds up so that you hear them all the time will only result in a much less believable surround sound experience. Remember that the signal they receive is 99% subtle sounds that should make you believe you're in the action up on the screen.*

The orientation of the 174 SRs is important to the proper generation of an involving and diffuse surround effect. To insure proper orientation, make sure that the RIGHT speaker is on the right side wall of the room, and the LEFT speaker is on the left side wall of the room, as you are seated facing the screen. The 174 SRs are marked RIGHT and LEFT on the back and have an arrow that should point towards the front of the room. Should you hang them on the wall, using the supplied keyhole adapters, you must turn the speakers over (hanging them "upside down") and swap them side to side for proper orientation.

Music Only System (Model 171 LR with subwoofer only)

If you are setting up a music only system, begin with these general guidelines:

- The distance between your speakers should be approximately one-half their distance from your favorite listening position.
- If you point the front of the speakers directly towards the prime listening position, you will achieve the most precise imaging. You will also receive the maximum amount of direct radiated high frequency energy. If you have a "bright" or "hard" sounding room environment, aiming the speakers straight out into the room (or just aiming them partially towards you) may make for a more natural and pleasing sonic balance.
- The distance from each speaker to its three closest room surfaces should be different.
- In most rooms, you should not place your speakers in the corners.

The goal is to reproduce accurate musical timbre and natural sound. Additionally, a well set-up stereo pair of speakers will create excellent imaging and a cohesive representation of the soundstage. Placement in the room and your listening position have an enormous impact on the ultimate sound you will achieve from your system. The most important thing is to be creative! Try placing your speakers along the long wall instead of the short one. Toe the speakers in or point them straight ahead. Pull them away from the wall or push them close. Don't be timid. You'll find that moving your speakers, even a few inches, can dramatically change and possibly improve their sound.

Mounting

The 171 LR and the 174 SR speakers can be mounted in a variety of ways:

On speaker stands Atlantic Technology speaker stands (Model 176 ST) provide an ideal height (29" above the floor) for most rooms. They are available in black or white (as are the 174 SR surround speakers). Speaker stands from other manufacturers may be used, but should be of approximately the same height (29" to the base of the speaker). When using Atlantic stands the 1/4" x 20 threaded insert in the back of the cabinet accepts the supplied bolts included in the stand hardware package. This makes for an exceptionally secure and solid stand mounting system.

On the wall To mount your speakers on a wall, we have supplied metal key-hole brackets that will attach to the back of the 171 LR and 174 SR speakers. You'll need to turn the speakers over and attach the keyhole bracket to the 1/4"x20 threaded insert on the back of the enclosure so the speakers hang upside down, using the supplied 1/4"x20 bolts. As mentioned above, the SR speakers should be swapped side to side to have the drivers aimed correctly.

Be sure to use a strong screw to drive into the wall, one whose head and shaft will fit within the key-hole opening and slot. Also be sure to drive the screw well into a stud or use a mounting device (such a molly-bolt) that is capable of holding the weight of the speaker. Never simply drive a nail or screw into a sheet rock or other wall materials. Always follow the above guidelines for safe speaker mounting.

NOTE: *There are several rubber pads supplied with your speakers. They are to be used as feet when the speakers sit on a shelf, or on stands. When you use the keyhole mounts, place these pads on the lower rear of the enclosure (remember, the enclosures are going to be mounted upside down), using a double thickness (one pad on top of another). This will keep the speaker level and stop it from vibrating on the wall.*

For greater flexibility you can use pivoting ball-and-socket wall brackets of suitable weight rating (e.g., Atlantic Technology 157 WB, Omnimount 25 Series, Vogel, etc.) usually available from your local audio/video retailer. There are also compact adjustable metal shelf style mounts from companies like Pivotelli that are useful and unobtrusive. Please contact your A/V specialist for more information.

On a bookshelf Adhesive rubber feet are included.

In the wall There is an optional Atlantic Technology in-wall mounting kit (Model IN-RF BRKT) which includes all the necessary hardware (excluding wall trim/moulding) to install a pair of 174 SR speakers recessed partially in a standard wall. Please contact your local Atlantic Technolgy dealer for further information.

Listening Levels and Power Handling – IMPORTANT!

The power recommendation for these speaker components assumes that you will not operate your amplifier/receiver in a way that produces distortion. Even rugged speakers like System 170 can be damaged by a moderately powered system driven beyond its intended capacity. The harsh amplifier clipping that occurs in this situation will cause damage to the speaker system. This type of damage is easily identifiable through examination of the damaged speaker's voice coil and is not covered by the warranty.

The System 170 will play very loudly when provided with enough *clean* power to do so. Again, consult your dealer or Atlantic Technology for additional information.

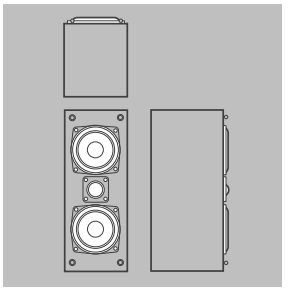
Care and Feeding of Your Speakers

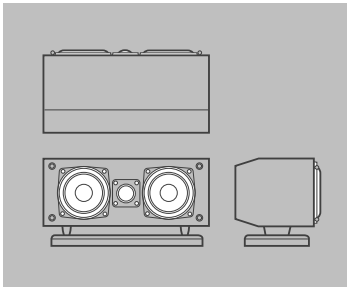
Clean your speaker cabinets using a soft cloth moistened with a mild, non-abrasive glass cleaner being careful not to wet the edges of the cabinet. Also, be careful not to get any cleaning fluids on the driver cones or domes. It may be best to dampen the cloth with the cleaner and then wipe the speakers. After carefully removing the grilles from the speakers by pulling them forward, gently, clean them with a quick pass from a vacuum cleaner with a brush attachment. This should remove any dust accumulation. Re-attach them by lining up the holes on the grilles with the pegs on the baffles and pushing firmly but carefully.

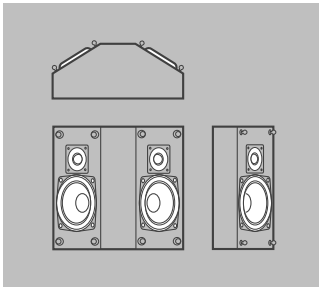
Avoid placing your speakers in direct sunlight or near a source of heat that may, over time, damage the finish.

Important: Save Your Boxes! *If you can do so, save the cartons, packing pieces, and plastic bags that came with your speakers. They will be useful in case you move or have to ship your loudspeakers for any reason. In any case, save all packing materials until you are certain that the systems have suffered no damage in shipment. If you find such damage, either visible or internal, contact your dealer immediately for the proper return procedure.*

System 170 Specifications







Model	***171 LR***	***173 C***	***174 SR***
Type	Sealed-box, 2-way	Sealed-box, 2-way, High Frequency control	Sealed-box, frequency-enhanced surround speaker
Drivers	(2) 4" CCMG woofers (1) 1" silk dome tweeter	(2) 4" CCMG woofers (1) 1" silk dome tweeter	(2) 4" CCMG woofers (2) 3/4" modified dome tweeters
Frequency Response (±3dB)	90Hz – 20kHz	90Hz – 20kHz	90Hz – 20kHz
Nominal Impedance	8Ω	8Ω	8Ω
Crossover Frequency	3 kHz	3 kHz	3 kHz
Sensitivity	87dB	87dB	87dB
Recommended Amplifier Power	10 – 140 Watts	10 – 140 Watts	10 – 140 Watts
Magnetic Shielding	Yes	Yes	No
Size (W x H x D)	5.5 x 13.5 x 6.5in 140 x 344 x 166mm	13.1 x 6.1 x 6.7in with base 334 x 155 x 170mm with base	9.1 x 10.2 x 5.2in 230 x 260 x 133mm
Weight (ea., unpacked)	7.6lbs; 3.4kg	8.4lbs; 3.8kg w/base	7.1lbs; 3.22kg

Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or appearance at any time without notice. Dolby Digital, AC-3, 5.1, Dolby Stereo and Dolby Pro Logic are trademarks of Dolby Laboratories Licensing Corporation. DTS is a registered trademark of DTS Technology.

For Future Reference

Record your speaker(s) serial number(s) and date of purchase here:

Model Number	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase

The serial number is found on the back of the speaker near the connecting terminals.